Training Course on Airport Accident and Incident Investigation Techniques

Professional Development Training Course Outline

Category	Aviation and Airport Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global aviation industry operates on a foundation of stringent safety protocols. Despite continuous advancements in technology and operational procedures, **aviation accidents** and **incidents** unfortunately still occur. These events necessitate thorough and impartial **investigations** to prevent recurrence and enhance overall **aviation safety**. Training Course on Airport Accident and Incident Investigation Techniques delves into the intricate methodologies and best practices for conducting effective **airport accident investigation**, aligning with international standards and promoting a robust **safety culture** across all aviation stakeholders.

Understanding the root causes of aviation occurrences is paramount for **risk mitigation** and continuous **safety improvement**. This course is meticulously designed to equip participants with the essential **investigative skills**, **human factors analysis** expertise, and **root cause analysis** techniques required to navigate complex **accident scenarios**. By focusing on practical application and adherence to **ICAO Annex 13** guidelines, this training empowers professionals to contribute significantly to a safer and more resilient aviation ecosystem, safeguarding lives and assets within the dynamic **airport environment**.

Programme Curriculum

Training Course on Airport Accident and Incident Investigation Techniques

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Course Duration

5 days

Course Objectives

1. Master the principles of aircraft accident investigation and incident causation theories.
2. Apply the ICAO Annex 13 framework for accident and incident investigation procedures.
3. Develop proficiency in accident site preservation, evidence collection, and documentation.
4. Conduct effective interview techniques for witnesses and involved personnel.
5. Utilize advanced root cause analysis (RCA) methodologies to identify underlying systemic failures.
6. Integrate human factors analysis into investigation processes for comprehensive understanding.
7. Leverage flight data recorder (FDR) and cockpit voice recorder (CVR) analysis in investigations.
8. Formulate robust safety recommendations for proactive risk mitigation.
9. Prepare professional and fact-based accident investigation reports.
10. Understand the legal and regulatory aspects of aviation safety investigations.
11. Implement an effective Safety Management System (SMS) within airport operations.
12. Analyze emerging aviation safety trends and their implications for future investigations.
13. Foster a proactive safety culture through effective communication and incident learning.

Organizational Benefits

- Reduced frequency and severity of accidents and incidents through effective root cause identification and prevention.
- Ensures adherence to national and international aviation safety regulations, including ICAO standards.
- Proactive identification and mitigation of aviation hazards and risks.
- Minimizes costs associated with accidents, including damages, legal liabilities, and operational disruptions.
- Builds public trust and confidence in the organization's commitment to safety.
- Identifies systemic weaknesses and improves operational procedures.
- Upskills staff in critical investigative and safety management roles.
- Encourages open reporting of incidents without fear of blame, leading to valuable safety intelligence.

Target Audience

1. Airport Operations Managers and Staff

2. Airport Safety Managers and Officers.
3. Aviation Regulators and Inspectors
4. Airline Officials and Safety Personnel
5. Air Traffic Controllers and Supervisors
6. Aircraft Maintenance Engineers and Technicians.
7. Emergency Responders (Fire & Rescue, Medical).
8. Legal and Insurance Professionals.

Course Outline

Module 1: Fundamentals of Accident and Incident Investigation

- Defining **Accidents**, **Incidents**, and **Serious Incidents** as per **ICAO Annex 13**.
- The sole objective of investigation: **accident prevention**, not blame or liability.
- Overview of **aviation accident causation theories** (e.g., Domino Theory, Swiss Cheese Model).
- Importance of an **independent investigation authority**.
- **Case Study:** Analysis of a famous historical aviation accident (e.g., Tenerife Airport Disaster) focusing on initial definitions and early investigative steps.

Module 2: International and National Regulatory Frameworks

- Detailed review of **ICAO Annex 13 – Aircraft Accident and Incident Investigation**.
- Roles and responsibilities of the **State of Occurrence**, **State of Registry**, **State of Operator**, and **State of Design/Manufacture**.
- National aviation safety regulations and their alignment with ICAO standards.
- Protocols for **international cooperation** in aviation investigations.
- **Case Study:** Examination of an international accident (e.g., Malaysia Airlines Flight 370 or Air France Flight 447) to illustrate the complexities of multi-state involvement and Annex 13 application.

Module 3: Accident Site Management and Evidence Collection

- Establishing **accident site security** and control measures.
- Techniques for **evidence preservation**, mapping, and photography.
- Systematic **wreckage recovery** and documentation.
- Handling of sensitive evidence: **human remains** and **hazardous materials**.
- **Case Study:** Practical exercise or simulated scenario involving a ground incident at an airport, requiring participants to identify and document key evidence from a prepared site.

Module 4: Data Acquisition and Analysis

- **Flight Data Recorder (FDR)** and **Cockpit Voice Recorder (CVR)** retrieval, readout, and analysis.
- Utilizing **Air Traffic Control (ATC) recordings** and radar data.
- Analyzing **maintenance records**, pilot logs, and weather information.
- Importance of **witness statements** and their limitations.
- **Case Study:** Reconstructive analysis of a simulated flight using mock FDR/CVR data to identify critical flight parameters and crew actions leading to an incident.

Module 5: Investigative Interviewing Techniques

- Principles of effective and ethical **interviewing**.

- Structuring interviews: planning, conducting, and documenting.
- Techniques for eliciting accurate and unbiased information from witnesses.
- Dealing with trauma and psychological factors in interviews.
- **Case Study:** Role-playing exercises with participants acting as investigators and witnesses, followed by constructive feedback on interview effectiveness.

Module 6: Root Cause and Human Factors Analysis

- Introduction to **Root Cause Analysis (RCA)** methodologies (e.g., 5 Whys, Fishbone Diagram, Event Tree Analysis).
- Understanding **Human Factors** contributions to aviation accidents (e.g., fatigue, communication breakdowns, decision-making errors).
- Analyzing organizational factors and safety culture.
- Identifying latent conditions and active failures.
- **Case Study:** Application of an RCA methodology to a known incident (e.g., a runway excursion due to human error) to identify contributing human and organizational factors.

Module 7: Safety Recommendations and Report Writing

- Developing clear, concise, and actionable **safety recommendations**.
- Structure and content of an **accident investigation report** (Preliminary and Final).
- Principles of effective technical writing and data presentation.
- Dissemination of findings and lessons learned to the aviation community.
- **Case Study:** Participants draft a preliminary investigation report based on a provided incident scenario, focusing on factual findings and initial safety recommendations.

Module 8: Integration with Safety Management Systems (SMS)

- The role of **accident and incident investigation** within an **SMS framework**.
- Using investigation findings for **safety risk management** and **safety assurance**.
- Promoting a **proactive safety culture** and continuous improvement.
- Implementation and monitoring of **corrective actions**.
- **Case Study:** Review of an organization's existing SMS and identification of how investigation findings can be integrated to strengthen its safety performance.

Training Methodology

This course employs a **blended learning approach** combining interactive lectures, group discussions, hands-on practical exercises, and realistic case studies. Participants will engage in:

- **Interactive Presentations:** Covering theoretical concepts and regulatory frameworks.
- **Simulations and Role-Playing:** Practicing investigation techniques like scene preservation and interviewing.
- **Group Workshops:** Collaborative problem-solving for complex incident scenarios.
- **Case Study Analysis:** In-depth examination of real-world aviation accidents and incidents.
- **Practical Tools and Templates:** Providing participants with ready-to-use resources for investigations.
- **Expert-Led Discussions:** Facilitated by seasoned aviation safety professionals.
- **Q&A Sessions:** Encouraging active participation and clarification of concepts.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org **or call** *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000

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